REMARKS

This Amendment responds to the Office Action dated May 1, 2002 in which the Examiner rejected claims 1-3, 5, 7, 11, 13, 26-27, 29 and 31 under 35 U.S.C. §102(b) and rejected claims 4, 6, 8-10, 12, 14-20, 28, 30 and 32-34 under 35 U.S.C. §103.

Claim 1 claims a thermoplastic resin injection molding machine comprising a plasticating unit, an injecting unit, a buffering unit, a plunger and a detecting sensor. The plunger reciprocates in the buffering unit. The detecting sensor detects a measurement of the plunger.

Through the structure of the claimed invention having detecting sensor detect a measurement of the plunger as claimed in claim 1, the claimed invention provides a thermoplastic resin injection molding machine in which injection molding can be carried out with high stability. The prior art does not show, teach or suggest the invention as claimed in claim 1.

Claims 1-2, 5, 7, 11, 26, 29 and 31 were rejected under 35 U.S.C. §102(b) as being anticipated by *Nakamura et al.* (German reference 19718174).

Nakamura et al. appears to disclose a re-plasticizing type injection molding machine 1 generally comprises an injection apparatus, 8, a plasticizing device 5 and an accumulation apparatus 13. An injection apparatus 8 has a second barrel 6 at the front portion. Within the second barrel 6, a second screw 7 is housed. The rear end of the second barrel 6 is mounted on a screw driving portion 21 which drives the second screw 7. The second barrel 6 has an injection nozzle 22 at the front end, and is provided with a resin inlet 6i at the rear portion. On the upper end of the screw driving portion 21, the plasticizing device 5 is

arranged. The plasticizing device 5 has a first barrel 2 at the front portion. A first screw 3 is disposed within the first barrel 2. The first barrel 2 is descended frontwardly to have a resin outlet 2o at the front end. The first barrel 2 has a hopper 4 for supplying a molding material at the rear portion. At the upper end of the resin inlet 6i in the second barrel 6, the vertically standing accumulation device 13 is provided. The accumulation device 13 has a stock chamber 12 mounted on the second barrel 6. Within the stock chamber 12, a pushing plunger 11 is disposed. On the upper end of the stock chamber 12, a pushing cylinder 29 for driving the pushing plunger 11 forward (downward) is provided at the upper end of the stock chamber 12. It should be noted that the front end of the first barrel 2 is mounted at the lower end of the stock chamber 12. The resin outlet 2o of the first barrel 2 and the resin inlet 6i of the second barrel 6 are continuously connected via a resin passage 9. At the intermediate position of the resin passage 9, a switching valve 10 is provided.

Thus, *Nakamura et al.* merely discloses that the accumulation device 13 feeds resin into the second barrel 6. Nothing in *Nakamura et al.* shows, teaches or suggests a detecting sensor detecting a measurement of a plunger as claimed in claim 1. Furthermore, nothing in *Nakamura et al.* shows, teaches or suggests the pressure sensor claimed in new claims 36, 54 or the position detecting sensor claimed in new claims 42 and 48.

Since nothing in *Nakamura et al.* shows, teaches or suggests a detecting sensor, as claimed in claim 1 or the additional features claimed in new claims 36, 42, 48 and 54, it is respectfully requested that the Examiner withdraws the rejection to claim 1 under 35 U.S.C. §102(b) and allows new claims 36, 42, 48 and 54.

Claims 2, 5, and 7 depend from claim 1 and recite additional features. It is respectfully submitted that claims 2, 5, and 7, would not have been anticipated by *Nakamura et al.* within the meaning of 35 U.S.C. §102(b) at least for the reasons as set forth above. Therefore, it is respectfully requested that the Examiner withdraws the rejection to claims 2, 5, and 7 under 35 U.S.C. §102(b).

Claims 3, 13 and 27 were rejected under 35 U.S.C. §102(b) as being anticipated by *Pralong* (French reference 1553319). As indicated above, these claims have been cancelled without prejudice.

Claims 4, 6, 28 and 30 were rejected under 35 U.S.C. §103 as being unpatentable over *Nakamura et al.* in view of *Cheng* (U.S. Patent No. 5,098,267). Claims 9, 17, 19 and 33 were rejected under 35 U.S.C. §103 as being unpatentable over *Nakamura et al.* in view of *Nakazawa et al.* (U.S. Patent No. 6,042,760). Claims 8 and 32 were rejected under 35 U.S.C. §103 as being unpatentable over *Nakamura et al.* in view *Taniguchi* (U.S. Patent No. 5,002,717). Claim 15 was rejected under 35 U.S.C. §103 as being unpatentable over *Nakamura et al.* in view of *Cheng* and further in view of *Taniguchi*. Claims 16 and 18 were rejected under 35 U.S.C. §103 as being unpatentable over *Nakamura et al.* in view of *Cheng* and further in view of *Nakazawa et al.* Claim 20 was rejected under 35 U.S.C. §103 as being unpatentable over *Nakamura et al.* in view of *Taniguchi* and further in view of *Nakazawa et al.* Claims 10 and 34 were rejected under 35 U.S.C. §103 as being unpatentable over *Pralong* in view of *Nakazawa et al.* Claims 12 and 14 were rejected under 35 U.S.C. §103 as being unpatentable over *Pralong* in view of *Cheng*.

As indicated above, claims 3, 8-20 and 26-34 have been cancelled without prejudice. Furthermore, it is respectfully submitted that since *Nakamura et al.* does not show, teach or suggest the primary features of the invention as claimed in claim 1 as discussed above, it is respectfully submitted that the combination of the primary reference with the secondary reference will not overcome the deficiencies of the primary reference. Applicants respectfully note that *Nakazawa et al.* discloses a sensor 34 detecting a position (speed) of a screw 3, but does not show, teach or suggest a pressure sensor or position sensor detecting a measurement of a piston rod as claimed in new claims 36-59. Therefore, it is respectfully requested that the Examiner withdraws the rejection to claims 4 and 6 under 35 U.S.C. §103 and allows new claims 36-59.

As indicated above, claims 35-59 has been added and recite features not disclosed in the prior art. Therefore, it is respectfully requested that the Examiner allows new claims 35-59.

Thus it now appears that the application is in condition reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested.

If for any reason Examiner feels that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

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Attachment to Amendment dated July 31, 2002

Marked Up Claims 1-2

1. (Twice Amended) A thermoplastic resin injection molding machine comprising:

a plasticating unit for plasticating a thermoplastic resin,

an injecting unit connected to the plasticating unit through a connecting passage, to inject the plasticated resin into a mold, [and]

a buffering unit having a buffering chamber having a volume [provided in said connecting passage to reserve the resin plasticated in the plasticating unit in an amount] at least equal to the injection quantity of the resin per shot, [and feed the resin into the injecting unit, wherein the buffering unit is different from the injecting unit] said buffering unit receiving the resin plasticated in the plasticating unit during an injection by the injection unit, and said buffering unit feeding the resin held in the buffering chamber into the injecting unit during measuring resin into the injection unit,

a plunger reciprocatably in said buffering unit, and

a detecting sensor detecting a measurement of the plunger.

2. (Amended) A thermoplastic resin injection molding machine as claimed in claim 1, in which said buffering unit comprises a pot, [a] the plunger disposed in the pot applicable to be moved forward and backward in the pot, [a] the buffering chamber provided between the pot and the plunger for reserving the plasticated resin, and means for energizing the plunger in the resin extrusion direction.